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ABSTRACT

The current state of adult numeracy research and practice was examined. Data were collected from available literature and test data about adult numeracy instruction, as well as from telephone interviews with directors and teachers in 30 randomly selected adult education programs in three states. Among the key findings of the study were the following: (1) employers increasingly desire not only proficiency in the basic mathematical operations, but also broader general problem-solving skills and facility with communicating about quantitative applications; (2) despite growing recognition of the importance of numeracy, there is little evidence of full integration of mathematics education with adult literacy instruction or use of assessment methods that adequately evaluate the numerical skills needed in daily life; and (3) current literacy teachers need more preservice and inservice training in numeracy instruction and more effective instructional materials. It was concluded that full integration of numeracy instruction into adult literacy programs will require increased funding and staff development, infusion of mathematical training into specialized adult literacy programs, and reexamination of student assessment/placement and data reporting procedures. Efforts to upgrade teachers' numeracy teaching skills and systematic research on numeracy instruction techniques and workplace numeracy requirements were recommended. (MN)

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BRIEF

Issues and Challenges in Adult Numeracy

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KEY FINDINGS:

- Employers increasingly desire quantitative skills that are broader than mere proficiency with the basic mathematical operations. They also look for general problem-solving skills and facility with communicating about quantitative applications.
- Despite growing recognition of the importance of numeracy, there is little evidence that math education is fully integrated with adult literacy instruction, or that assessment methods adequately test for the numerical skills that are important in daily life.
- Current adult literacy teachers, while dedicated and well intentioned, need more preservice and in-service training in numeracy instruction and more effective instructional materials.

KEY RECOMMENDATIONS:

- The necessary incorporation of numeracy instruction into adult literacy programs will first require (a) increased funding and staff development, (b) the addition of mathematical training into specialized adult literacy programs, including family literacy programs, and (c) a reexamination of assessment, placement, and reporting procedures.
- Upgrading the numeracy teaching skills of the current teaching force in adult literacy education requires the creation of updated instructional guides that incorporate the recent perspectives of employers as well as mathematics and science educators. Such guides also need to include curricular designs and propose teaching practices that maximize the transferability of classroom knowledge to everyday life.
- Systematic inquiries are needed to assess (a) how adults' informal experiences can be used to facilitate learning, (b) whether literacy programs have a positive effect on adult learners' attitudes toward mathematics and on their quantitative practices outside the classroom, and (c) what new workplace numeracy requirements imply for future curricula and teaching practices.

INTRODUCTION

Despite its apparent centrality in people's daily lives, the numeracy component of literacy has received little attention. What is more, current instructional practices may not fully meet adult learners' numeracy needs. This report helps fill the gap by surveying the current state of adult numeracy research and practice.

METHODOLOGY

The first part of the report reviews the sparse information available (state activity reports, ERIC data, and test data) about adult numeracy instruction and examines gaps in current instructional practices. In addition to published information, additional data were obtained through phone interviews with directors and teachers in 30 randomly selected adult education programs in three states. The second part of the report examines numeracy based on the perspectives of three different stakeholder communities—employers, math and science educators, and assessment program developers. The third part of the report discusses key questions and issues about the nature of adult numeracy and the skills that adults will need in order to be considered "numerate." The fourth and final part of the report contains recommendations for practitioners, policymakers, and researchers on (a) recognizing the interrelation of numeracy and literacy, (b) incorporating numeracy instruction into literacy

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programs, and (c) improving the provision of numeracy education.

IMPLICATIONS

While official reports convey the impression that little math instruction takes place, field tours suggest that numeracy-related activities abound. Most of these, however, are not fully integrated with other types of literacy instruction, and this condition is likely to persist as long as definitions of literacy exclude numeracy.

Effective numeracy provision requires that numeracy be more adequately defined and that a consensus be reached on what specific skills should be emphasized and what are promising ways to develop them with adult learners. Unless such steps are taken, numeracy education is likely to continue and emphasize many outdated goals and teaching practices.

FURTHER READING

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